

**UNITED STATES OF AMERICA
DEPARTMENT OF TRANSPORTATION
FEDERAL AVIATION ADMINISTRATION
SEATTLE, WASHINGTON 98168**

Exemption No. 5175

In the matter of the petition of

TRANS WORLD AIRLINES

Regulatory Docket No. 26092

for an exemption from § 121.314
of the Federal Aviation Regulations

PARTIAL GRANT OF EXEMPTION

By letter dated December 7, 1989, Mr. L. F. Brett, Director, Government and Industry Liaison for Trans World Airlines, P.O. Box 20126, Room 1-440, Kansas City, Missouri 64195, petitioned for exemption from § 121.314 of the Federal Aviation Regulations (FAR) to permit a sixteen month extension in the compliance time for the retrofit of class C and D cargo compartment liners.

This request is for certain L-1011 airplanes for which the late arrival of service bulletins and extensiveness of the modification will make timely compliance impracticable.

Related section of the FAR:

Section 121.314, adopted by Amendment 121-202, requires that after March 20, 1991, all class C and D cargo compartments used on airplanes in air carrier service have liners constructed of fiberglass or material satisfying the requirements of § 25.855, as amended by Amendment 25-60, or, in the case of liners approved prior to March 20, 1989, aluminum.

The petitioner's supportive information is as follows:

"All of TWA's 35 Lockheed L-1011 aircraft will have to be modified to meet the new requirement. Most of the material required for the modification is flat fiberglass panel stock which can generally be purchased within reasonably short lead times. The decompression vent panels, however, must be made to whatever standards are determined by

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Lockheed during the flammability and vent decompression tests required to certify the modifications. Therefore, the design details and materials for the decompression vent panels are not yet known.

"TWA has estimated the labor costs, material costs and downtime required to modify each airplane to be as follows based on a single major maintenance visit for each airplane:

Maximum Crew Size per Aircraft - 10
Manhours per Airplane - 1500
Down-time per Airplane - 7 days
Labor Cost = 1500 X \$45 = \$67,500/Aircraft
- \$877,500 for 10 Aircraft
Material Costs = 13 Aircraft X \$15,000/Aircraft
= \$195,000

"The possibility of breaking up the overall modification task into smaller tasks that could be performed during short maintenance visits was investigated by TWA. This type of accomplishment was rejected because the limited working space within the airplane and other maintenance requirements prohibit the use of large enough crews to accomplish the modifications on time. Thus, the use of either major maintenance visits (Operations 15 & 16 Checks) or special visits was determined to be least disruptive for accomplishment of the modifications.

"Adequate ground time and personnel will be available at TWA's L-1011 Operations 15 & 16 maintenance visits to accomplish the modifications without disruption of service to the public. However, because of the late availability of service bulletin information and decompression vent panel modification kits, only 22 of TWA's 35 L-1011 aircraft can have the modification accomplished by March 20, 1991 without unscheduled removal of aircraft from service. The modification of the first 22 aircraft at Operations 15 & 16 Check visits, of course, depends upon receipt of service bulletin information and initial delivery of decompression vent panel kits on the forecast schedule. The approximate public service and economic impact is as follows based on no relief from the March 20, 1991, compliance date:

No. of aircraft requiring special visits - 13
No. of revenue plane days out of service per aircraft - 7
No. of available seat miles lost per airplane day - In excess
of 1,000,000 ASMs
Total available seat miles lost for 13 aircraft - In excess
of 13,000,000 ASMs
Cash loss per aircraft day out of service - \$45,700
Total Cash loss - 13 aircraft X 7 days/visits X \$45,700
= \$4,158,700

"TWA believes it is in the public interest to grant the relief requested herein to eliminate the loss of public service and reduce the economic burden on TWA that will result from compliance with FAR 121.314 by March 20, 1991, date for all 35 of its aircraft.

"TWA will continue to maintain the existing Nomex Cargo Compartment liners in an airworthy condition on the thirteen aircraft for which an exemption is sought."

A summary of the petitioner's December 7, 1989, request for exemption was published in the Federal Register on February 2, 1990, (55 FR 3678). No comments were received.

The Federal Aviation Administration's analysis/summary is as follows:

The petitioner's request is limited to an extension of the compliance time, as opposed to permanent relief from the modifications required. The compliance time established in the regulation was based on a reasonable estimate of the time required to accomplish the necessary design changes and modifications, taking into account the relative urgency of the needed upgrade. As such, the compliance time may be subject to adjustment under certain conditions, where the assumptions made to establish the compliance time are no longer valid.

The petitioner proposes to accomplish the required modifications on all affected airplanes; however, the petitioner has proposed a time considerably longer than was envisioned by the regulations. The purpose of the retrofit requirements of § 121.314 is to upgrade the overall cargo compartment safety on airplanes in service in a timely manner. The two year compliance time chosen in the regulation was considered adequate to allow for the majority of installations to be modified and commensurate with the potential hazard. The petitioner has made a good faith effort to comply with the requirements in the allotted time; however, due to the late availability of service information from the airframe manufacturer, he will not be able to initiate the required modification schedule in time to comply without causing out-of-sequence maintenance.

The cost estimates used in developing the regulation were based on the assumption that retrofit could be accomplished during normal maintenance and that aircraft would not have to be taken out of service to accomplish the necessary modifications. The service information provided by the petitioner indicates that 1500 manhours of labor and an aircraft down-time of seven days will be required to accomplish the necessary modifications, resulting in a total material and labor cost of \$1.82 million. The FAA considers this estimate to be overly conservative. The manufacturer has estimated that only 171 manhours will be required to accomplish the necessary modifications. (This information was not available at the time the TWA petition was made.) In addition, information available to the FAA shows that comparable modifications of other large transport category airplanes can be accomplished in less than half the time estimated by the petitioner.

While the FAA agrees that an extension of the compliance time is warranted, the extension requested by the petitioner is considered to be longer than that needed to accomplish the needed modifications. Since all of the airplanes will be modified to comply with § 121.314, the net effect on safety of a relatively short extension is negligible. Since the modification can be accomplished during a much shorter maintenance visit, and since these occur more frequently, the FAA has determined that a reduction in the requested extension is appropriate. TWA's current maintenance program calls for a 3 phase "C" maintenance visit every 900 flight hours, not to exceed a total of 2600 hours. This visit lasts in excess of 24 hours. Using the current utilization data for the L-1011 of 11.5 hours per day, this works out to approximately 78 days, or 2½ months. The FAA realizes that some maintenance visits may be too short to allow this work to be accomplished. If, however, only one third of the visits are long enough, an eight month extension should permit sufficient time to accomplish the necessary work.

In consideration of the foregoing, I find that a partial grant of exemption is in the public interest and will not affect the level safety provided by the regulations. Therefore, pursuant to the authority contained in §§ 313(a) and 601(c) of the Federal Aviation Act of 1958, delegated to me by the Administrator (14 CFR 11.53), Trans World Airlines is hereby granted an exemption to permit operation, under the provisions of Part 121 of the FAR with thirteen (13) Lockheed L-1011 airplanes that do not comply with the provisions of § 121.314 of that part. In addition, to enable the FAA to track accomplishment of the modifications, the 13 affected airplanes must be identified to the FAA by March 20, 1991.

This exemption expires November 20, 1991.

Issued in Seattle, WA, on May 7, 1990.

/s/ Steven B. Wallace
Acting Manager, Transport Airplane Directorate
Aircraft Certification Service

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